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Cc: Heather.Ptak@shell.com[Heather.Ptak@shell.com]
From: Lana.Davis@shell.com
Sent: Fri 8/30/2013 1:09:37 AM
Subject: reference from Geotech model - questions
Dredging Research Ltd 2002.pdf

Hi Chris-

The publication I think you were asking about is attached. Let me know if this is the one you were looking for or not if not I'll try to run down what you need.

Thanks-

(Dredging Research Ltd. 2002).

What is the anticipated areal extent of sediment deposition and thickness relative to depths of the holes?

The areal extent is not known at this time as detailed modeling has not been performed to date; however, simple calculations can indicate likely ranges of the seafloor area that might be affected by the deposition of cutting and drilling fluids given the volume of discharged material. The drilling fluids and cuttings are not discharge at the surface or in the water column, they are pushed out of the borehole at the seafloor surface by the pressure of the drilling fluids in the wellbore, and then spread out over the seafloor. The material will not spread evenly across the seafloor, but assuming even distributions with expected reasonable maximum and minimum thicknesses of the deposit the area of seafloor over which cuttings and drilling fluids might be deposited would range from 218-1,747 ft² (Table 3). The morphology of cuttings piles from exploration and production drilling of oil and gas wells has been studied (Dredging Research Ltd. 2002). Slopes of these cuttings pile

have ranged from 6°-26°. Given these slopes, cuttings and drilling fluids might be deposited over a seafloor area of 60-167 ft² for a 50 ft borehole and 283-788 ft² (Table

4).

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